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ASSESSING BEHAVIORAL RESPONSES TO STRESS

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This paper advocates the use of a stress paradigm in the assessment of children with behavior disorders. The paradigm suggests that one element of an assessment should be the behavioral pattern that the child is likely to adopt in response to stress. The Stress Response Scale, designed to assess such behavioral patterns, is presented and discussed. In order to extend the scale's clinical utility, it was necessary to obtain data on the behavioral patterns that might typically be expected to be found with children in general. Data are presented which describes the most frequently found patterns among a population of school-aged children.

THE development of a valid, systematic assessment for children with behavior disorders is predicated on adopting a conceptual paradigm for that assessment. What is necessary is some common ground which can serve as a starting point for further study. Observations of children referred for behavioral disorders have identified one common property which they all share—their behavior seems "driven." They seem helpless, responding to some motivating force beyond their control or awareness. Such behavior may be characterized as a response to some stimuli, a stressor (McGrath, 1970). Stress serves as a motivator, as the individual, seeking drive reduction, responds in adaptive or maladaptive ways. The perspective on children with behavior disorders as children under stress provides a useful paradigm for assessment.

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Stress may be defined as a state of emotional tension arising from unmet needs or events and situations which the individual perceives as threatening. Since stress has been found to be associated with a wide variety of psychological and physical problems of children (Gersten, Langner, Eisenberg, and Orzeck, 1974; Rolf and Garmezy, 1974; Sandler and Block, 1979; Siegel, 1981), it is of crucial importance when assessing the child's emotional status. As the role of stress in the lives of children becomes clearer, the relevance of an examination of stress in the clinical assessment has become more compelling. Recently, the American Psychiatric Association recognized that importance when, in the most recent edition of its *Diagnostic and Statistical Manual* (DSM-III), it recommended that some survey of stressors be included as part of an assessment procedure (APA, 1980).

The study of stress suggests the need for an interactive paradigm which relates the child and his world and delineates the various elements of the stress experience (Figure 1).

The paradigm has direct implications for the assessment of children since it may be used to identify the areas of study of a child's emotional status. The paradigm suggests that clinical assessment should be concerned with: (1) identifying the stressors in the child's life, that is, those events and situations which may cause stress; (2) exploring the child's perceptions of those stressors; (3) assessing the impact of stress on the child's health, school and social functioning, and (4) on the child's behavioral adjustment.

This paper is concerned with the fourth area, the assessment of the impact of stress on the child's behavioral adjustment by examining the type of behavioral pattern likely to be adopted in response to stress. A behavioral assessment instrument, designed to measure response to psychosocial stress, is subjected to a construct validation technique using a procedure outlined by Edelbrock and Achenbach (1980).

Behavioral Responses to Stress

Stress responses represent one type of human response to stimulus. In order to conceptualize them, a broader model of personality functioning is needed. Such a model would predict the major ways of responding to internal or external stimulus. A multidimensional, circumplex model has been developed to conceptualize human response. This model, depicted in Figure 2, employs two widely-used dimensions of personality, active-passive, and introversion-extraversion, which are related in an orthogonal configuration.

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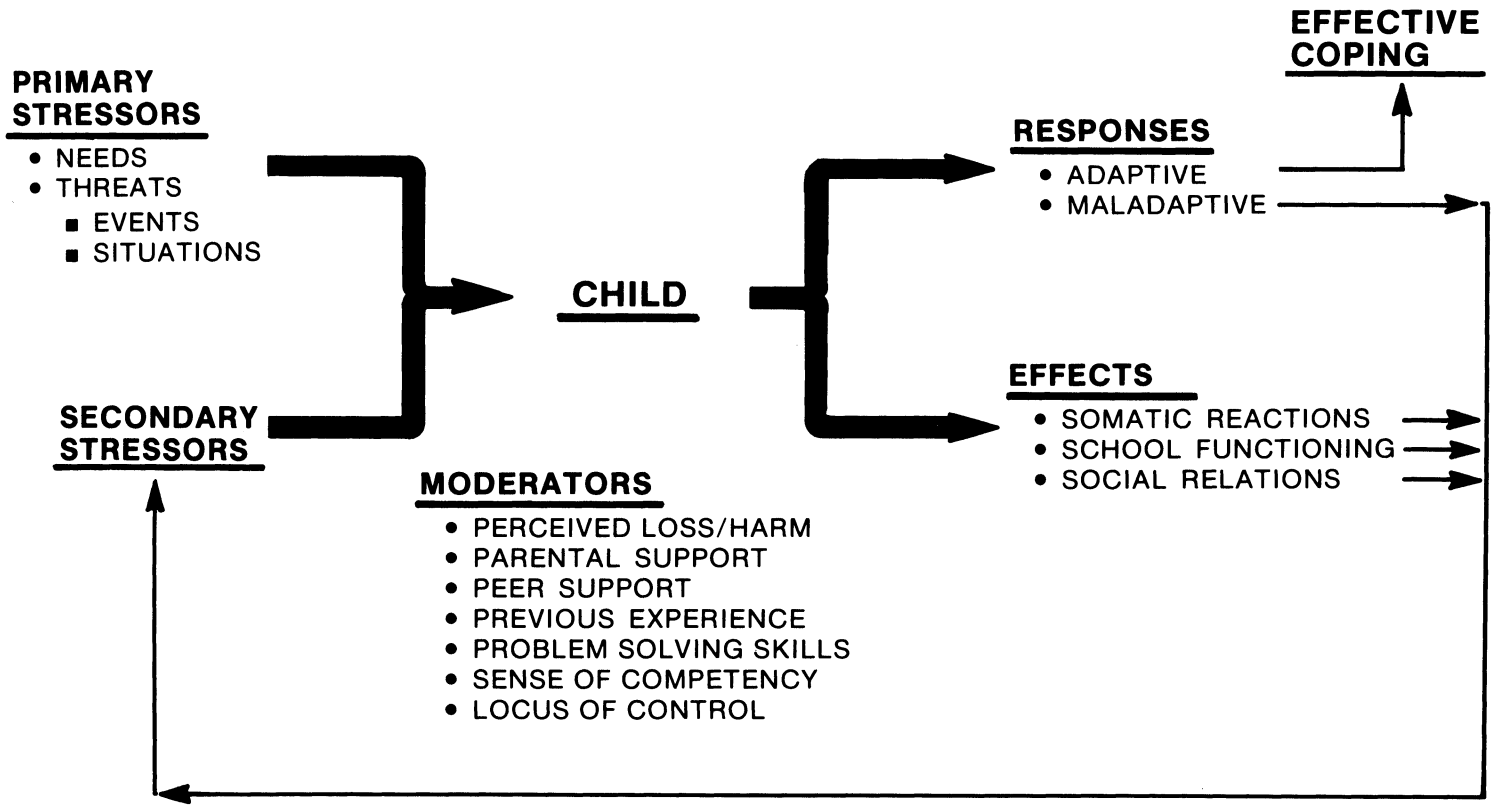

Figure 1. A paradigm for stress analysis with children.

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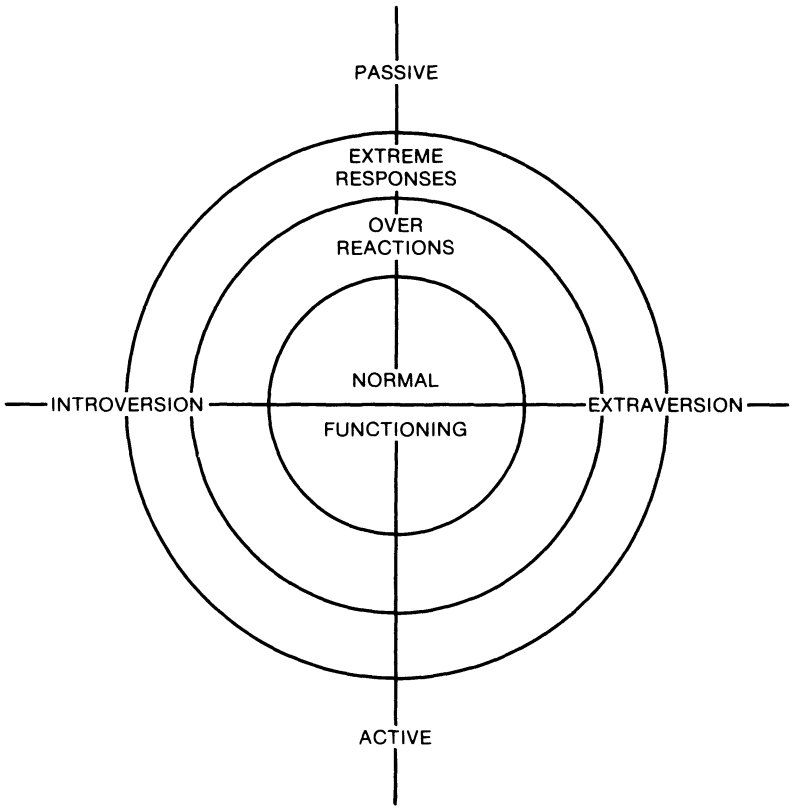

Figure 2. Two dimensions of personality.

It is possible to apply this general model of personality functioning to the more specific application of children's responses to stress. It is apparent from observations of children in schools and clinics, that when children are under stress their activity levels vary. Some children tend to become overactive; some become lethargic and passive. Similarly, they may turn their activity inward, or outwards towards their environment. They may withdraw into quiet isolation or act out. These two basic dimensions then, the active-passive and the introversion-extraversion, seem to be relevant in describing the behavioral responses of children to stress. The model relates the two dimensions, illustrating how the response pattern a child might typically adopt in responding to stress, can be seen on a continuum with extreme behavior at either end. In this context, the difference between normal functioning and the more extreme responses of a behavior disorder, is one of degree. Behavior disorders may be

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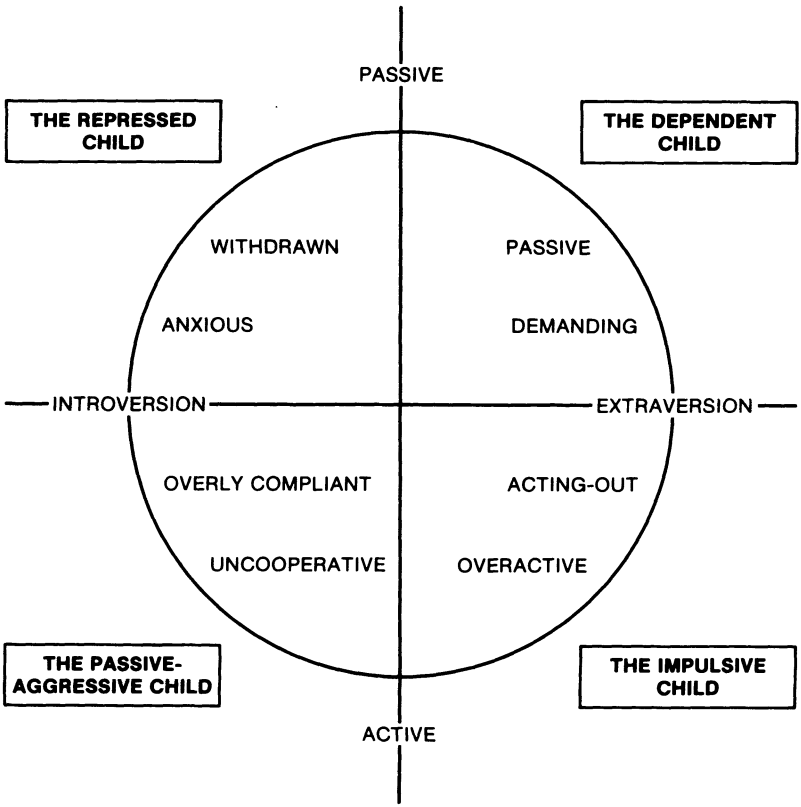

Figure 3. Four common response patterns to stress.

defined as extreme patterns of normal coping behavior adopted in response to stress.

The model yields four patterns of behavior, one for each quadrant. These can be seen as ideal types, in that they represent discrete, extreme cases of the behavior patterns. Figure 3 shows the four types of behavioral response patterns as they might apply to children.

As ideal types, they may be seldom found as discrete, isolated, and consistently predictable patterns in populations of children. Children's behavior varies widely, and they may adopt, at times, several patterns, although one usually tends to be preferred and may be seen as dominant. Clinical experience suggests that children showing these behavior patterns are commonly found in referred populations, and these patterns may be useful as diagnostic categories.

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As diagnostic types they have been frequently found in the literature on child psychopathology (Clarizio and McCoy, 1978; Quay, 1979). Similar syndromes have also been occasionally identified through empirical studies (Edelbrock, 1979). A review of the literature, and the psychological reports of children, allowed characteristics for each type to be identified, and collated, so that composite descriptive statements could be developed (Chandler and Lundahl, 1983). The model then, predicts four response patterns which may be described as follows:

The Dependent Child is often passive, immature, and characterized by regressive habits and childish mannerisms. This child lacks independence in many areas of functioning, and usually avoids taking the initiative in learning and social situations. Some children, while dependent, are less passive and adopt a more assertive, demanding manner to have their needs met. These children are often described as headstrong, defiant, selfish, and willful. They seek immediate need gratification.

The Impulsive Child is easily excited, impulsive, and generally overactive. If the child's activity is focused, it may be turned toward authority figures or peers. Such children are described as aggressive and hostile, subject to temper tantrums, violence, and acting out behavior. For both subtypes, the essential problem is a lack of appropriate controls.

The Passive-Aggressive Child is most often characterized by school underachievement, and is usually described as indifferent about his poor grades in school. While sometimes these children adopt an obstinant, uncooperative attitude; others are overly-compliant and agreeable, yet they fail to follow through on promises to complete assigned work, and they tend to procrastinate.

The Repressed Child is typically quiet, reserved, shy, moody, and detached. He seldom initiates conversation and is prone to daydreaming. Some of these children show symptoms of being anxious. This may involve fears, worries, nervous mannerisms, and overly-sensitive reactions. They often have difficulty in making decisions.

If such maladaptive responses are distorted or extreme examples of common coping behaviors, it should be possible to relate them to identified coping responses. Table 1 provides an example of that relationship. It depicts four of the coping responses identified by Moos and Billings (1982), which might particularly apply to children, and matches them with what might be extreme instances of those coping responses, as predicted by the model.

Relating stress responses to a model of personality functioning suggests that such responses may act as personality traits, that is, they may become characteristic ways of responding employed in most situations. Such behavior patterns would constitute response styles.

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TABLE 1
Four Common Stress Response Patterns

Selected Coping Responses (From Moss & Billings, 1982)	Maladaptive Stress Responses of Children and Adolescents
Resigned Acceptance. Accepting the situation as it is, with the feeling that nothing can be done to change things. Submitting to fate.	*Dependent Response.* Such children seem resigned to being unable to affect change. They prefer to passively place their fates in the hands of adults.
Emotional Discharge. Included here are verbal expression "to let off steam", crying, and impulsive acting out. May involve a failure of affect regulation.	*Impulsive Response.* Such children are generally overactive and sometimes show aggressive, acting out behavior. Their problem is one of appropriate control.
Developing Alternative Rewards. Attempts to deal with a problem by creating new sources of satisfaction. Developing greater autonomy and independence. Engaging in substitute pursuits.	*Passive-Aggressive Response.* Such children fail to meet adult demands, usually related to school performance. They stubbornly refuse to accept what they perceive as goals being imposed on them by others.
Cognitive Aviodance. Denying fear or anxiety under stress, denial of the problem, engaging in wishful fantasies.	*Repressed Response.* Such children show anxious, fearful, withdrawn behavior. They sometimes seem moody and detached.

Coyne and Lazarus (1980) in discussing coping models, note that a number of writers have pointed out that much of the observed consistency in human behavior can be related to individual's reacting in characteristic ways to their environment (Bandura, 1973; Michel, 1973; Runyan, 1978; Watchel, 1973).

Moos and Billings (1982) have suggested that hierarchies of coping preferences may characterize an individual during a life transition or life stage. In discussing the issue of stability, they cite evidence of considerable long-term stability in preferred ego-processes and cognitive style (Haan, 1977; Witkin and Goodenough, 1977). Although they caution that the degree of cross-situational consistency of coping responses has yet to be determined.

The well-known investigations by Thomas and Chess (Thomas, Chess, and Birch, 1968; Thomas and Chess, 1977) into the temperament characteristics of children also provide evidence of the persistence of response styles. These authors maintained that the behavioral characteristics of children could be used to define personality types. They identified nine such behavior patterns or temperament categories based on their observations of babies and young children in their clinic: activity level, rhythmicity, approach/withdrawal, distractability, adaptability, attention span and persistence, intensity of reaction, threshold of responsiveness and quality of mood.

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These characteristics were first seen in infancy and although they did not make a strong case for a genetic or constitutional base for temperament patterns, their work does lend some support to that notion (Lambert, 1982).

Finally, one might speculate that particularly with children who have been identified as having behavior disorders, there may be considerable cross-situational stability, since their persistent use of a preferred extreme response style may be a major reason that they have been identified and referred.

Method

Instrument

The *Stress Response Scale* consists of 40 common descriptors of children's behavior taken from clinical reports. Descriptors were randomly assigned to item positions so that they could be rated on a six-point scale, scored from zero to five (never, almost never, sometimes, often, almost always, always). In its clinical use the scale was designed to be completed by the person making the referral; that is, the adult who perceived the child's behavior as problematic. Items selected were those specific to neither home nor school environments so that both parents and teachers would be able to use the scale.

The Stress Response Scale may be scored in two ways. First, a total score can be computed as an overall estimate of the severity of the behavior disorder. Second, subscale scores can be derived for each of the five response patterns: Impulsive (Acting Out), Passive-Aggressive, Impulsive (Overactive), Repressed, and Dependent. These scores may be plotted and a profile of the child's typical response pattern may be constructed.

The *Stress Response Scale* was arranged by randomly assigning descriptors from each of the four response patterns from the stress response model to item positions in a 6-point rating scale format so that the child's behavior could be rated on a scale from zero to five: never, almost never, sometimes, often, almost always, always.

Reliability (n = 45) of a preliminary version of the SRS using teachers as raters and a test-retest interval of two weeks was found to be good with children in regular education classes (80.7 mean percent of agreement across all items). The current version of the scale also showed good reliability results (r = .86) test-retest over a one month interval with a similar population (n = 25). Coefficient

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TABLE 2
Symptom Clusters Identified by Factor Analysis

IMPULSIVE (ACTING OUT)	*PASSIVE-AGGRESSIVE*
Demanding (05)	Daydreams (02)
Selfish (09)	Underachiever (07)
Temper Outbursts (11)	Procrastinates, puts things off (13)
Defiant (17)	Poor attitude towards school (15)
*Doesn't care about schoolwork (23)	*Lack of participation (21)
Picks on other children (25)	*Doesn't care about schoolwork (23)
Impulsive (26)	Declining school grades (24)
Willful (28)	*Lacks self confidence (27)
Fights (29)	*Doesn't complete assignments (31)
Detached, out of touch (34)	Detached, out of touch (34)
Headstrong (37)	*Lacks independence (36)
*Unable to take criticism (38)	*Uncooperative (39)
*Uncooperative (39)	Stubborn (40)
Stubborn (40)	
IMPULSIVE (OVERACTIVE)	*REPRESSED*
Easily excited (03)	Worries (01)
*Not quiet or withdrawn (08)	Sensitive, easily hurt (18)
*Not passive (10)	*Lacks self confidence (27)
Playful (19)	Nervous, jumpy (32)
*Lack of participation (21)	Easily upset (33)
Talkative (22)	Afraid of new situations (35)
*Not shy (30)	
*Not afraid of new situations (35)	
Headstrong	
DEPENDENT	
*Not passive (10)	
*Lack of participation (21)	
*Lacks self confidence (27)	
*Not willful (28)	
*Lacks independence (36)	
*Unable to take criticism (38)	

*Items with negative connotations have been re-worded for this table in order to clarify their meaning.

Alpha, a measure of internal consistency, was found to be .94 (Chandler, 1983).

A series of developmental studies were then conducted using factor analysis on the scores derived from using the scale with various populations. Factors were drawn until Eigenvalues became less than 1.0. Five factors extracted met this criterion, and together accounted for 65% of the variance. An attempt was then made to define each factor and to compare the identified factors with the predicted diagnostic categories. Three of the four factors seem consistent with the diagnostic categories: Passive-Aggressive, Repressed, and Dependent. The fourth and fifth factors seemed to discriminate between the two subtypes predicted for the remaining category the Impulsive. These were labeled as Impulsive (Acting

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TABLE 3
Normative Data for Total Raw Score

Age Group	Males			Females		
	n	Mean	SD	n	Mean	SD
5-6	62	72.77	24.68	78	62.11	25.45
7-12	308	66.77	25.52	319	55.55	23.22
13-14	89	77.12	25.70	91	67.02	26.72

Out), and Impulsive (Overactive). Table 2 shows the symptom clusters identified by factor analysis.

The rating scales completed on both clinic-referred and non-referred children showed a similar factor structure, thus lending support to the contention that problem behavior may be seen as extreme examples of normal response styles. Since factor analysis has shown that the behavior patterns of referred children were similar to those of non-referred children, it seemed appropriate to identify the behavior patterns typically found in a population of new-referred children so as to gain some perspective for subsequent clinical assessment. The purpose of the current study is to identify the behavioral response patterns commonly found with boys and girls at various age levels.

Subjects and Procedures

Subjects were 947 school children, ages 5 years, 0 months to 14 years, 11 months, in grades kindergarten through eighth, in six school districts in Western Pennsylvania. Homeroom teachers were asked to complete rating scales on four children, two boys and two girls, selected from their class rosters. Teachers were instructed to select the first and third child from the girls' roster, and the second and fourth child from the boys' roster. Children assigned to special education classes were excluded from the sample. Normative data was established based on the total raw scores (Table 3) (Chandler, 1983).

Data Analysis

Initially the data were grouped into the age/sex subgroups as described in Table 2. Then the cases in each subgroup were analyzed through a BMDP2M cluster analysis program (Dixon, 1983). Cluster analysis is distinguished from factor analysis and multidimensional scaling in that with cluster analysis boundaries are

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drawn so that each individual is in one (and only one) group whereas with factor analysis and multidimensional scaling items can be placed with more than one group. Thus, typological requirements of exhaustiveness and mutual exclusiveness are met. Cluster analysis has been recommended as a statistical procedure for identifying homogeneous groups of individuals based on their ungrouped data scores (Edelbrock, 1979). Clustering methods generally group individuals by their similarity on all variables simultaneously. The basic goal is to maximize homogeneity within each cluster (Bailey, 1975). Data handled in this manner are said to be subject to a *Q*-type cluster analysis.

Because there are few underlying assumptions, cluster analysis has become very popular over the years (Bailey, 1975). The underlying assumption of *Q*-type analysis is that the relative weights of the individual variables are equal. This means that each of the 40 statements on the Stress Response Scale are treated equally in their contribution to the overall classification scheme. While cluster analysis suffers from the lack of a well-articulated body of statistical theory, such as that available for factor analysis, there have been some general guidelines developed by researchers for use with classification schemes (Blashfield and Aldenderfer, 1978).

Following a procedure similar to that described by Edelbrock and Achenbach (1980), each subgroup was analyzed separately using a centroid linkage algorithm. Centroid linkage has been found to be one of the most effective procedures for use with profiles of behavior problem scores (Achenbach, 1982). In this procedure, the algorithm searches until it finds patterns of individual scores that are the most similar (i.e., the two have the highest correlation). When two scores from each scale are found, their average scores is computed. The averages form a new profile that is halfway between the two original profiles on all scales. This average profile is called a centroid (Achenbach, 1982).

Because of limitations of computer core size, two of the subgroups (Males, 7–12, $n = 308$; Females, 7–12, $n = 320$), were randomly sampled using BMD's RNDU case selection procedure. The resulting n in each of these subgroups was (Males 7–12, $n = 97$; Females, 7–12, $n = 203$.)

Results

Data analysis identified 13 major clusters of similar cases for the boys (three cases at ages 5–6, six cases at ages 7–12, and four at ages 13–14) and 10 major clusters of similar cases for the girls (three at

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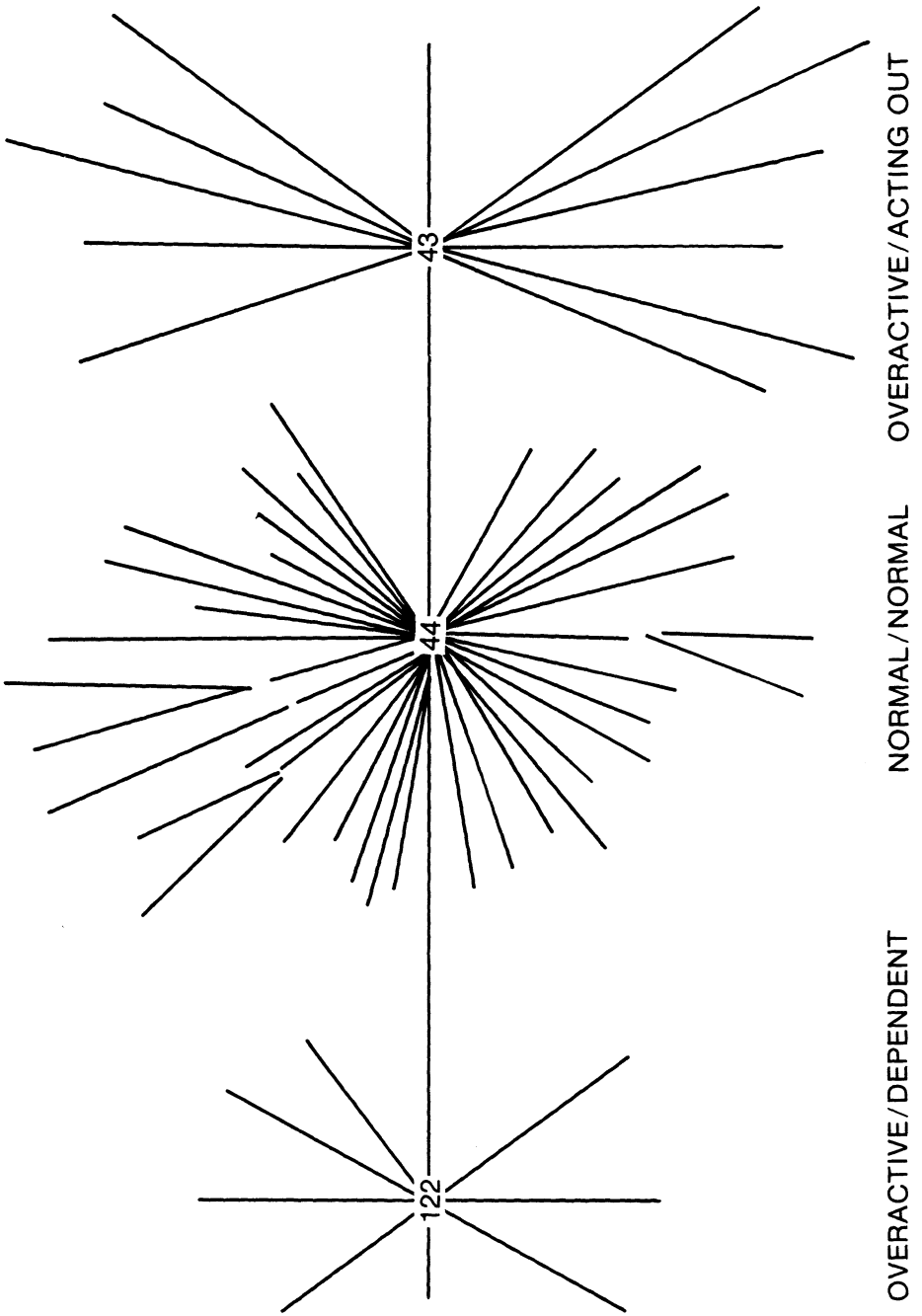

Figure 4. Major clusters identified for 13 and 14-year old girls.

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TABLE 4
Typical Behavior Patterns of Boys

5-6 years	7–12 years	13–14 years
		-Overactive/Repressed
	-Overactive/Acting Out	
-Overactive/Normal	-Overactive/Normal	-Overactive/Normal
	-Overactive/Dependent	
-Normal/Normal	-Normal/Normal	
		-Repressed/Dependent

ages 5–6, four at ages 7–12, and three at ages 13–14). In order to reduce the effects of chance relationships shaping the interpretation of this analysis, no cluster was considered major unless it contained at least ten cases. While ten cases is an arbitrary minimum, it does represent about 1/20 of the sample for the subjects aged 7–12 years; it reflects a larger proportion for the other subgroups.[1] Cluster sizes ranged from 10 to 98 cases. Figure 4, which represents the clusters derived for 13 and 14 year-old girls, illustrates the clustering results. The number at the center of each cluster illustrate the best case representative of that cluster.

In order to profile typical response patterns found at the various age group levels, data from the rating scale of the best case representatives of each cluster were profiled (Tables 4 and 5) using the procedures outlined in the Stress Response Scale Manual (Chandler, 1982). Profiles were then labeled according to the first two peak scores above a *T*-score cut-off of 60. For example, if *T*-scores of over 60 were recorded on the overactive and dependent subscales, the profile was labeled as "overactive/dependent." (If no score exceeded 60, a profile was labeled "normal/normal.")

TABLE 5
Typical Behavior Patterns of Girls

5–6 years	7–12 years	13–14 years
		-Overactive/Acting out
-Overactive/Normal	-Overactive/Normal	
		-Overactive/Dependent
-Normal/Normal	-Normal/Normal	-Normal/Normal
-Overactive/Repressed		
	-Repressed/Dependent	

[1]Typically the elimination of some of these minor clusters contributed to a reduction of "strain" on the overall cluster model. The measure of fit, which is defined as: number of lines within cluster/number total ≤ reference distance is often used as a way to supplement visual interpretation.

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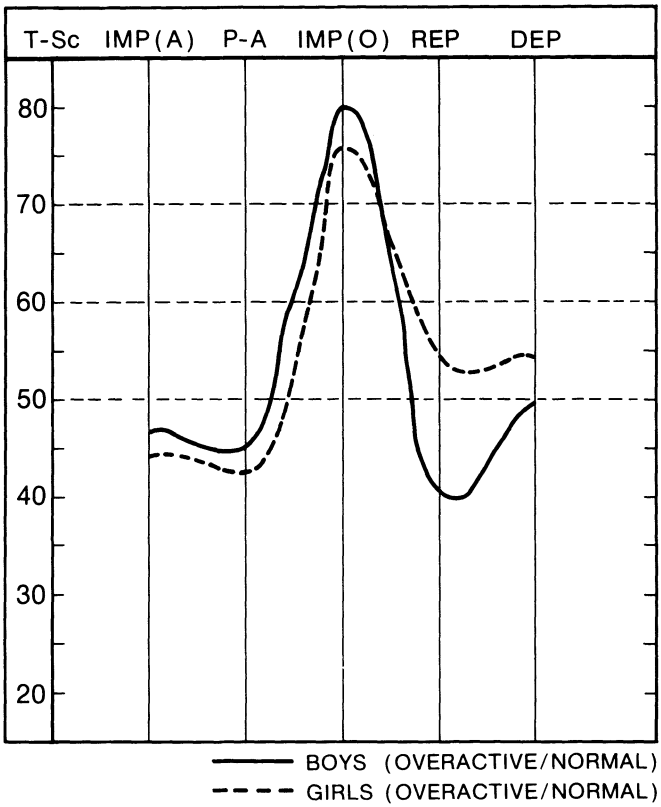

Figure 5. Selected profiles of 5 and 6-year-olds compared by sex.

Profiles with the same peak scores were combined even though other aspects of their configurations were disimiliar. This labeling practice is consistent with that used with other clinical assessment instruments such as the MMPI (Gilberstadt and Duker, 1965; Graham, 1980). This consolidation of profiles was also consistent with clinical practice in that peak scores are often seen to have special significance to the practitioner. The consolidation resulted in a loss of five clusters (four for boys, one for females).

An examination of Tables 4 and 5 suggests that at the 5 to 6 year old level the most dominant response pattern clustered for both sexes is general overactivity. Girls also show repression as a secondary feature of their response in some cases.

By ages 7 to 12 years more diversity is seen in the response patterns. While general overactivity continues to dominate, for boys an acting out pattern is evident, while for girls a repressed pattern is seen. Both sexes also show a dependent response pattern at this age.

Earlier patterns persist with the 13 and 14-year-olds. Also at this

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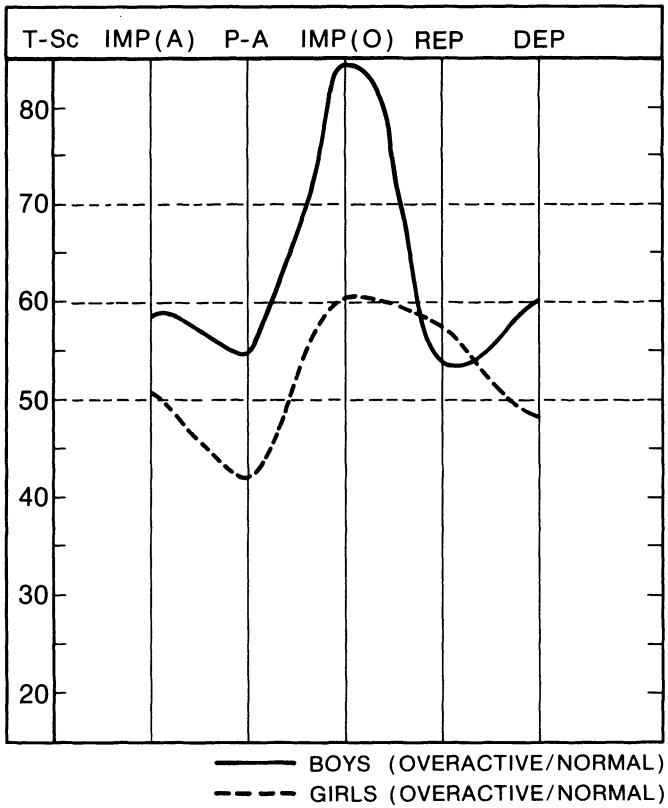

Figure 6. Selected profiles of 7 to 12-year olds compared by sex.

age some boys are being perceived as showing a repressed pattern, while some girls show acting out behavior.

In order to illustrate a typical profile set, the overactive/normal strand has been selected for graphic illustration (Figures 5, 6, 7).

An examination of these figures suggests that boys and girls show strong indications of similar overactive behavior patterns at ages 5 and 6 years, although girls are more repressed than boys. In the latency-aged groups, girls tend to become less reactive, although boys with an overactive tendency seem to become slightly more extreme in their behavior. Girls still are slightly more repressed than boys, and boys show indications of dependency. Finally, at early adolescence, some boys seem to become less overactive. With girls the clear overactive/normal pattern is no longer found, but two seemingly related patterns now emerge. Some girls who are overactive show signs of acting out behavior, while other girls show rather strong indications of dependency.

In general, users of the *Stress Response Scale* might expect to

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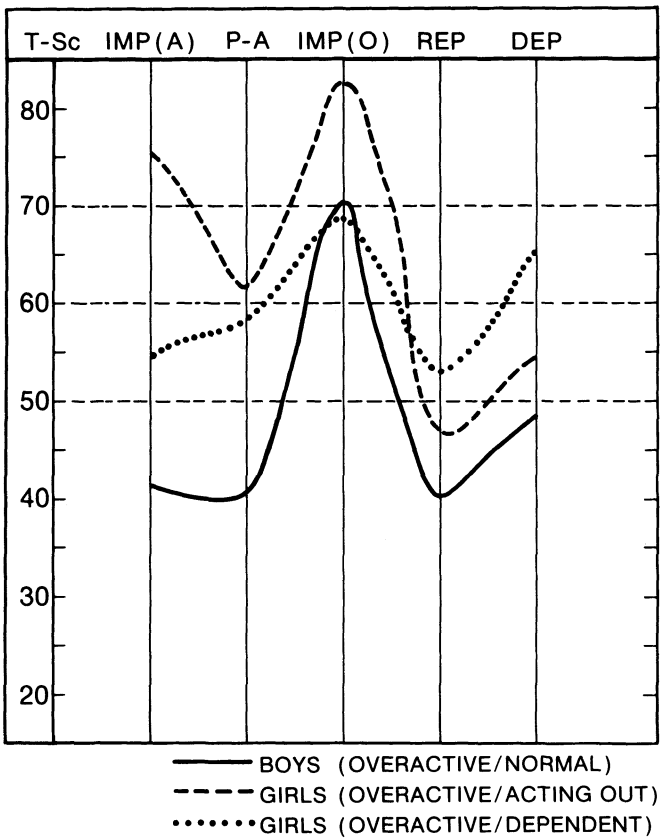

Figure 7. Selected profiles of 13 and 14-year-olds compared by sex.

find the overactive response pattern as the typical first peak score. Because this pattern seem to dominate as general overactivity, it may prove to be the case that a more multidimensional typology may have more clinical relevance, since the second peak score may represent a more specific response.

Discussion

While there are considerable variations in the ways individuals respond to stress, depending on personality, social, and cultural factors, the range of human response is not infinite. Ultimately human nature restricts the options that are available to the individual and genetic factors and previous learning further limits them to a rather fixed repertoire for any one individual. As a result response

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patterns may follow a few basic themes, although there may be a number of variations on those themes.

Coping responses have varying degrees of effectiveness with some attempts clearly ineffective and even counterproductive. These extreme examples of coping behavior may be partially successful in meeting the demands of the primary stressor, but in the process, they may create a new set of secondary stresssors with which the individual will have to further cope.

Klerman (1979) sees adult depressive episodes as vain attempts, on the part of the individual, to adapt. Clinical depressions are, from his adaptational perspective, maladaptive outcomes of partially successful efforts at adaptation. In a similar way, childhood behavior disorders or emotional adjustment problems, may also be seen as maladaptive responses to stress. In the case of children, the extreme responses that they adopt, are manifested in behavior that calls attention to itself and interferes with effective functioning at home, in school, and in social relations.

In many cases, these children have been referred for professional help because their behavior has become problematic. Therefore, the type of behavior patterns that children characteristically adopt has direct relevance for intervention, and an examination of the preferred response pattern should be an integral part of any clinical assessment.

Conclusions

The assessment of children's emotional status had traditionally relied on a number of methods such as clinical interviews, observations, reports of behavior and personality assessment (psychometric and projective) techniques. The methods employed often evolved from the various theoretical orientations taken in the study of child psychopathology. The lack of agreement as to a preferred approach to this study has impeded progress. For example, the inability to find consensus among professionals on a taxonomy of childhood disorders, has limited progress on assessment, treatment, and the evaluation of those procedures. Further progress may depend upon finding some conceptual base upon which most professionals can agree. The study of stress provides concepts which may prove useful as a base of agreement.

The Stress Response Scale, designed to assess one element suggested by an interactive stress paradigm, has been developed for clinical assessment with children. It may be used to describe the styles with which children respond to stressful stimuli. One underly-

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ing principle used in developing the Stress Response Scale has been that the patterns which children tend to adopt in response to stress are those found generally in the population of children, with the behavior seen in those who are referred for psychological services constituting extreme examples of those patterns. If this is the case, it is important to ascertain those patterns which might normally be expected to be found with children in general. Furthermore, since developmental considerations are of such vital importance in assessing children, it seems relevant to determine the patterns of behavior the practitioner might be expected to find with children at various age levels so that comparisons as to the type and magnitude of behavioral response might be made.

This study identified a number of typical behavior patterns found in a non-referred population of school-aged children. As such it provides reference data for the practitioner interested in using the Stress Response Scale in clinical and school settings.

REFERENCES

Achenbach, T. M. (1982). Empirical approaches to the classification of child psychopathology. In J. R. Lochenmeyer & M. S. Gibbs (Eds.), *Psychopathology in childhood*. New York: Gardner Press, Inc.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: APA.

Bailey, K. D. (1975). Cluster analysis. In D. R. Heise (Ed.), *Sociological methodology*. San Francisco: Jossey-Bass.

Bandura, A. (1973). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Blashfield, R. K. and Aldenderfer, M. S. (1978). The literature on cluster analysis. *Multivariate Behavioral Research,* 13, 271–295.

Chandler, L. A. (1982). The Stress Response Scale: A manual. Unpublished mimeo, University of Pittsburgh.

Chandler, L. A. (1983). The Stress Response Scale: An instrument for use in assessing emotional adjustment reactions. *School Psychology Review,* 12, 260–265.

Chandler, L. A. and Lundahl, W. T. (1983). Empirical classification of emotional adjustment reactions. *American Journal of Orthopsychiatry,* 53, 460–467.

Clarizio, H. F. and McCoy, G. F. (1978). *Behavior disorders of children*. New York: Thomas Crowell Co.

Coyne, J. C. and Lazarus, R. S. (1980). Cognitive style, stress perception, and coping. In I. L. Kutash et al. (Eds.), *Handbook on stress and anxiety*. San Francisco: Jossey-Bass.

Dixon, W. J. (1983). *BMDP statistical software*. Los Angeles: University of California Press.

Edelbrock, C. (1979). Empirical classification of children's behavior

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disorders: Progress based on parent and teacher ratings. *School Psychology Review,* 8, 355–369.
Edelbrock, C. and Achenbach, T. M. (1980). A typology of child behavior profile patterns: Distribution and correlates for disturbed children aged 6–16. *Journal of Abnormal Child Psychology,* 8, 441–470.
Gersten, J. C., Langer, T. S., Eisenberg, J. C., and Orzeck, L. (1974). Child behavior and life events: Undesirable change or change per se? In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), *Stressful life events: Their nature and effects*. New York: Wiley.
Gilberstadt, H. and Duker, J. (1965). *A handbook for clinical and actuarial MMPI interpretations*. Philadelphia: Saunders.
Graham, J. R. (1980). *The MMPI: A practical guide*. New York: Oxford University Press.
Haan, N. (1977). *Coping and defending: Processes of self-environment organization*. New York: Academic Press.
Klerman, G. L. (1979). Stress, adaptation, and affective disorders. In J. E. Barrett (Ed.), *Stress and mental disorder*. New York: Raven Press.
Lambert, N. (1982). Temperament profiles of hyperactive children. *American Journal of Orthopsychiatry,* 52, 458–467.
McGrath, J. E. (1970). A conceptual formulation for research on stress. In J. E. McGrath (Ed.), *Social and psychological factors in stress*. New York: Holt, Rinehart & Winston.
Michel, W. (1973). Toward a cognitive social learning reconceptualization of personality. *Psychological Review,* 80, 252–283.
Moos, R. H. and Billings, A. G. (1982). Conceptualizing and measuring coping responses and processes. In L. Goldberger & S. Brenitz (Eds.), *Handbook of stress: Theoretical and clinical aspects*. New York: The Free Press.
Quay, H. C. (1979). Classification. In H. C. Quay & J. S. Werry (Eds.), *Psychopathological disorders of childhood* (2nd ed.). New York: Wiley.
Rolf, J. E. and Garmezy, N. (1974). The school performance of children vulnerable to behavior pathology. In D. F. Ricks et al. (Eds.), *Life history research in psychopathology,* (Vol. 3). Minneapolis, MN: University of Minnesota Press.
Runyan, W. M. (1978). The life course as a theoretical orientation: Sequences of person-situation interaction. *Journal of Personality,* 46, 569–593.
Sandler, I. N. and Block, M. (1979). Life stress and maladaptation of children. *American Journal of Community Psychology,* 7, 425–440.
Siegel, D. J. (1981). Separation-loss events, self concept, locus of control, and children's effective functioning in school. Unpublished doctoral dissertation, University of Pittsburgh.
Thomas, A. and Chess, S. (1977). *Temperament and development*. New York: Brunner/Mazel.
Thomas, A., Chess, S., and Birch, J. (1968). *Temperament and behavior disorders*. New York: New York University Press.

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Watchel, P. (1973). Psychodynamics, behavior therapy, and the implacable experimenter: An inquiry into the consistency of personality. *Journal of Abnormal Psychology,* 82, 323–334.

Witkin, H. A. and Goodenough, D. R. (1977). Field dependence and interpersonal behavior. *Psychological Bulletin,* 84, 661–689.

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